

In re. Application No. 09/396,530

Filed: 9/15/99

Title: A Method For Improving Bowler's Control

Group Art Unit: 3711

Examiner: W.M. Pierce

Attorney Docket 99-1001.

Inventors: Randall A. Addington,

W. Robert Addington,

W. Robert Addington II.

To: The Assistant Commissioner Of Patents

Washington, D.C. 20231



Declaration Under 37 CFR 132

1. I, Randall A. Addington, am one of the named inventors in this application. I have read and understand the Amendment submitted with my Declaration and the Declaration of my co-inventor W. Robert Addington, II, DO, submitted with my Declaration and the Amendment. I incorporate by reference, my Declaration Under 37 CFR 132, attached to this Declaration and submitted in co-pending application 09/396,531, filed 09/15/99.

2. I have been bowling for over 25 years, and have received numerous cash prizes in American Bowling Congress sanctioned tournaments and currently am eligible for, and in the process of receiving the American Bowling Congress "300 Ring," for at least one "300" or perfect, game I have bowled. The weight of bowling ball I currently prefer is 15 pounds.

3. I have studied the process of, and apparatus for, bowling, such as the various means to reduce wear on the fingers and finger pads of a bowler and to enable the bowler to utilize his maximum force against the interior surface of a bowling ball finger hole, when lifting and releasing the bowling ball. I am familiar

with various devices for reducing frictional pressure and drag on the fingers at the moment of release of the fingers from the interior of the bowling ball finger holes. In particular, I am familiar with cushion inserts placed into the interior of the bowling ball finger holes and with finger protectors, designed and intended to enable release of the bowling ball from the finger or fingers inserted into the interior of the bowling ball, reducing frictional drag

4. I am familiar with commonly used and accepted bowling terms and understand the word "lift" or "lifting" as used by those skilled in the art of bowling, and, for example as described in Patent 4,371,163, columns 3 and 4, describing the use of the middle fingers inserted into the ball as the source of the lift to give the ball the desired roll. The middle fingers are described in 4,371,163, as rotating the underside of the ball upward as those middle fingers leave the ball at release, in an effect called "lift." In lifting the ball and as shown in 4,371,163 the thumb is described as positioned in a higher position than the middle fingers and removed from the ball. Then, the middle fingers are used to give spin to the ball at release, without use of the thumb. The term "lift," as described above, is used in my Application, particularly on pages 4 and 5 and in Claim 2, dependent from originally submitted Claim 1.

5. I have read and am familiar with the contents of Patent 3,046,561, as cited by the Examiner. My conclusion, from the study of 3,046,562 is that it does not show, teach, or describe my claimed invention, it is inoperative for any method of using the thumb to hook the ball and is self-contradictory, unreliable and incredible, as any teaching of anything with reference to any bowling method. It cannot achieve the results of my invention. The facts and reasons for these conclusion are as follows.

A) In summary, my invention is a method whereby a bowler can utilize the bowler's natural force when lifting the bowling ball at the moment of release by

the method using a finger pad shield placed in contact with the finger pad of a bowler's finger inserted in contact with the interior surface of a finger hole of a bowling ball, to reduce the pressure over the finger pad, produced when lifting the ball and releasing the bowling ball from the bowler's finger.

B) My invention is able to achieve this result by the method of using a finger pad shield in contact with the finger pad of the bowler's finger used to lift the bowling ball at the moment of release of the bowling ball from the bowler's finger. Lifting the bowling ball produces a counter force against the bowler's finger pad. My inventive method of using a finger pad shield, distributes the counter force produced by the bowling ball against the finger pad, over the area of contact made by the finger pad shield and the finger pad.

C) In bowling, when the bowling ball is released from one or two of the middle fingers, it is desirable to lift a bowling ball, using the one or two middle fingers, with a bowler's maximum natural force. That maximum force exerted against the weight of the ball, and used to lift the bowling ball, produces a counter force and pressure spots on the bowler's finger pad, eventually causing wear and fatigue. My inventive method using a finger pad shield, is able to receive that counter force from the bowling ball and by distributing that force over the area of contact made between the finger pad shield and the bowler's finger, and is able to reduce the pressure from the bowling ball counter force and prevent pressure hot spots.

D) The result described in subparagraph C) above, is achieved by the method of using a finger pad shield, as described in my Application, which operates to distribute the force against the bowler's finger pad over the area of contact made between the bowler's finger pad and the surface of the finger pad shield in contact with the finger pad, when the bowler is lifting the bowling ball at the moment of release, .

E) In use of my inventive method, the counter force of the bowling ball against the finger pad shield and over the area under the finger pad shield and in contact with the bowler's finger pad, can be distributed over that area of contact and enables a bowler to utilize his or her maximum natural force in lifting the ball at release.

6. It is clear from the disclosure of Patent 3,046,561, the thumb device shown in that patent, cannot achieve the results of my invention, as set forth below.

A) The thumb device shown is a "protective thumb ring." It is shown used on a bowler's thumb for the sole purpose to, "enable release of the bowling ball without frictional drag..." Column 1, lines 59-60.

B) The thumb device as disclosed is intended to be a substitute for "cushioning inserts permanently fitted in the opening...[of the bowling ball thumb and middle finger holes]..." column 1, lines 39-42, and "...as a cushion..." Column 3, lines 24.

C) The device shown is not intended to be used for receiving any force directed against the bowler's finger pad when the bowler lifts the ball at release. This fact is demonstrated by the recitation in column 3, lines 28 to 32,

At the moment of release of the ball the thumb pressure is withdrawn and the member 1, because of its smaller diametrical dimension, is then freely removed by the thumb from the opening T with no appreciable frictional resistance by the wall of the opening.

D) The 3,056,561 thumb device as shown and described is not useful in my inventive method and cannot achieve the result of my inventive method. The disclosure teaches away from my inventive method of distributing the force of the bowling ball over the area of contact made between the finger pad shield and the bowler's finger pad. As stated in subparagraph C) above, the device is used to prevent frictional abrasion, is designed and intended to protect the thumb when the thumb is withdrawn from the finger hole in order to allow the ball to be released. Column 3, lines 28-29. The device is not disclosed as intended or useful for lifting the ball (as stated in paragraph 4), when releasing the ball and for distributing the force from the ball over the area of contact made between the finger pad shield and the bowler's finger pad. As disclosed 3,046,561, there is no force applied against the finger pad shield and the bowler's finger pad, when releasing the ball, as in my inventive method, or is there any "contact area" over which or within which, the force of the bowling ball produced when lifting the ball, is distributed.

E) The 3,046,561 device cannot achieve the results or perform the steps of my inventive method. The device is shown as a "resilient cushioning material 7, such as foam rubber which conforms in shape and dimension to the member 1." Column 3, lines 1-3. and is not shown or disclosed as distributing the force of the bowling ball over the contact area between the finger pad and the finger pad shield. The device disclosed depends on a resilient cushioning material such as foam rubber." Column 3, lines 1-2. The resilient material (identified by numeral 7) is fitted within a member identified by numeral 1. The member 1 is described as "substantially rigid material," and as "composed of somewhat yieldable solid material, e.g. suitably vulcanized rubber, which has the advantage of optimum frictional engagement with the wall of the thumb opening." Col. 3, lines 46-50.

F) The disclosure of the outer member 1 is as a "substantially rigid" or "somewhat yieldable" material. Such a disclosed "material" can deform under the

force of the interior wall of the bowling ball finger hole. That deformation, as would be expected from a yieldable or resilient material, would cause the force from the bowling ball to be restricted in location to the area of the source of the force, namely, the location where the device member 1 contacts the wall of the bowling ball finger hole. This effect is readily apparent when attempting to apply a force applied over a local area through a resilient or yieldable material which covers a given area, larger than the local area under the applied force. Where the area under the applied force is smaller than the given area under the resilient or yieldable material, the yieldable or resilient material prevents the applied force from being transmitted through the resilient material to the given area under the material, an area larger than that smaller local area under the applied force. The opposite effect would be a force placed against the center of a rigid and unyieldable first plate. Because the first plate does not deform, the force at the center of the first plate is distributed over the larger area of the first plate. If the first plate was placed in contact with a second plate with a larger area then the first plate in contact with and transmitting the force, and defining a contact area made by that first plate's contact area with the second plate, the force would be distributed over that contact area and through that contact area from the first plate to the second plate. Accordingly, as disclosed in Patent 3,046,561, a material that is only substantially rigid or somewhat yieldable or resilient, can deform under a force and that deformation will prevent the force from the area of contact made between the member 1 and the bowler's finger, from being distributed over that contact area made by the resilient material.

G) For the reasons stated above, the use of the yieldable or resilient material used in 3,046,561, does not show, teach or describe, the steps of my inventive method, namely, step f of Claim 14 (New), reciting,

receiving said second force in said second direction
from interior surface of said finger hole of a bowling
ball, against said second surface of said finger pad

shield, includes the step of distributing said second force, in said second direction from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield, over said contact area made between said finger pad of a bowler and said first surface of said finger pad shield, for reducing a pressure over said contact area made between said finger pad of a bowler and said first surface of said finger pad shield, produced by said second force, in a second direction from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield.

H) Patent 3,046,561, cannot teach, describe or disclose my inventive method, as recited in steps d, e and f, of Claim 14 (New), reciting,

d. releasing said finger pad of a bowler and said finger pad shield from said finger hole of a bowling ball by applying a first force from said finger pad of a bowler in a first direction against said first surface of said finger pad shield, through said finger pad shield to said second surface of said finger pad shield, against said interior surface of said finger hole of a bowling ball, to lift said bowling ball, and producing a second force in a second direction, from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield;

e. said step d, of releasing said finger pad of a bowler and said finger pad shield from said finger hole of a bowling ball, includes the step of receiving said second force in said second direction, from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield, through said finger pad shield to said first surface of said finger pad shield and over

said contact area made between said finger pad of a bowler and said first surface of said finger pad shield; and

f. said step e, of receiving said second force in said second direction from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield, includes the step of distributing said second force, in said second direction from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield, over said contact area made between said finger pad of a bowler and said first surface of said finger pad shield, for reducing a pressure over said contact area made between said finger pad of a bowler and said first surface of said finger pad shield, produced by said second force, in a second direction from said interior surface of said finger hole of a bowling ball, against said second surface of said finger pad shield.

3,046,561, attempts to teach the use of the thumb device in the control of the ball and offers as an example, "throwing a hook." Col. 1, lines 13-19. In combination with that operation, the purpose of the device is to be "...responsive to adequate thumb pressure in the control of the bowling ball...[to]...enable the release of the bowling ball without frictional drag." Col 1, lines 54-63. It is clear from reading this disclosure, that the force from the bowling ball on the thumb hole wall and on the bowler's thumb is removed before release. Otherwise the thumb device would not be able to accomplish being "...freely remove... [able]... by the thumb from the opening T with no appreciable frictional resistance by the wall of the ...[bowling ball...] opening." column 3, lines 28 - 32. In summary, what is disclosed and taught is frictional engagement of the thumb device with the bowling ball thumb hole to "hook" the ball while "no appreciable frictional resistance by the wall of the opening," at the moment of release. Column 3, lines 27 - 32. See also Paragraphs 3 and 4 above.

These statements are self-contradictory and irreconcilable. The thumb cannot be used to "hook" the ball without frictional engagement of the thumb with the ball. Simply put, the ball can't be "hooked" unless the thumb engages the ball frictionally at release and the device of 3,046,561, is disclosed, to the contrary as "...freely remove... [able]... by the thumb from the opening T with no appreciable frictional resistance. (See the preceding paragraph)

I) My inventive method, as recited in originally submitted claim 1 cannot be anticipated or made obvious by Patent 3,046,561, as it recites, "

- c. releasing said finger pad from said bowling ball finger grip hole by applying a force in a first direction from said bowler's finger pad against said first surface and to said interior surface of said bowling ball; and

- d. said step of releasing includes the step receiving the force of the bowling ball against said second surface, and spreading said force over said contact area, for reducing the pressure on said bowler's finger pad.

Claim 2, recites the "step of releasing includes the step of "lifting said bowling ball."

3,046,561 cannot show or disclose or teach this claimed method of releasing the bowling ball and of receiving the force of the bowling ball against the contact area made between the finger pad and interior surface of the bowling ball finger hole, as recited in Claims 1 to 13 and as recited in Claims 14 (New) to 30(New). Patent 3,046,561 is restricted to a disclosure that "At the moment of release of the ball, the thumb pressure is withdrawn." Col 3, line27 - 32. The plain meaning of the disclosure of 3,046,561 is there is no pressure and no force applied to the interior surface of the bowling ball finger hole at release. The intent and purpose of 3,046,561 is to prevent any force applied to the the thumb at

release. As there is no release force from the bowler's finger applied on the interior wall of the bowling ball finger hole, there is no release force of the bowling ball on the bowler's finger placed in the finger hole. There is no disclosure, teaching or showing, in 3,046, 561 that, as Examiner has stated, "in the use of Marinese the bowler would release the pressure on the finger pad by 'applying a force in a first direction... to the interior surface of said bowling ball'..." Patent 3,046,561 is limited to a disclosure of removing the force on the bowling ball without friction so the thumb may be withdrawn and so there is no engagement made by the thumb and the interior of the bowling ball finger hole, at release. There is no disclosure, as recited in Claim 1, of,

"releasing said finger pad from said bowling ball finger grip hole by applying a force in a first direction from said bowler's finger pad against said first surface and to said interior surface of said bowling ball."

(underlining added)

If in 3,046,561, "the bowler would release the pressure on the finger pad... [as enclosed in the thumb device]....," there could not be, as Examiner stated, "a force in a first direction to the interior surface of the bowling ball... [thumb hole wall]...." The whole purpose of Marinese is to avoid pressure against the thumb, so it may be freely removed and the ball released with no appreciable frictional resistance. See Column 3, lines 27 - 32.

J) I believe Examiner has correctly understood my claimed invention as described in the specification and as recited in Claims 1-13 as meaning the method of releasing the bowling ball by applying a force to lift the ball, from a finger pad inserted in the bowling ball finger hole against the interior surface of the bowling ball finger hole and distributing or spreading the force of the ball, over the contact area made between the bowler's finger pad and the finger pad shield. I have read the my Application and can state its plain meaning to one

skilled in the art of bowling is the method as stated above in this Paragraph. I state it is clear to one skilled in the art of bowling, from reading the Application, the method of the disclosed invention uses the finger pad shield inserted into the bowling ball finger hole and placed against the finger hole interior surface and that the "interior surface," plainly means the interior surface of the bowling ball finger hole. I have read the statement made under "Remarks" in the Amendment submitted with this Declaration and adopt that statement as my own.

As shown and described in a preferred embodiment in my application, the specification shows my inventive method using a finger pad shield on one or more of the bowler's middle fingers. In bowling, the object is to drive or force the ball down the alley applying the bowler's maximum natural force against the bowling ball at the release, so the initial velocity in the direction of the pins is greatest. At the same time of release, it is an object to lift the ball to impart spin to the ball as may be desired. Spin, as described in the specification, is applied to the ball at the release by lifting the ball. Lifting, as described in my Application and as used and understood by those skilled in the art of bowling, means using the force of the bowler's finger(s) against the bowling ball finger hole to impart velocity and spin at the moment of release. As recited in Claims 1 and 14, the inventive method recites applying a force to bowling ball finger hole at release and receiving the force of the ball against the finger pad and spreading or distributing that force over the area of contact made between the finger pad shield and the bowler's finger pad.

K) The thumb device of 3,046, 561, is used by withdrawing the thumb. Column 3, lines 27 - 33. This disclosed use of the thumb device is opposite to, and teaches away from my inventive method of applying a force against the interior wall of the bowling ball hole at release of the ball. The proposed method of bowling shown in 3,046,561, of using "the pressure of the thumb," "in the control of the ball as when throwing a hook," and with "the opposed finger

pressure being intended to be sufficient merely to prevent the ball from slipping from the hand," requires the bowler to use the thumb by its self and not any other "opposed fingers" "when throwing a hook." Col 1, lines 10-19. A fair reading of that description would be the reverse of the bowling method used by those skilled in the bowling art and as described above (See Paragraphs 3 and 4), by first removing the thumb and using a finger inserted into the interior of the bowling ball finger hole for lifting the ball at release. To those skilled in the art, spin is applied to the ball through "lifting" the bowling ball, by applying a force against the finger hole to rotate the ball. This means the thumb must be withdrawn first before the finger inserted into the finger hole is used to apply force to the ball to rotate the ball. See Paragraph 4 above for the understanding to those skilled in the art of how the thumb is not used to impart roll or spin.

In the proposed method described in 3,046,561, it is the thumb and opposed fingers that are used to prevent the ball from slipping out of the hand Column 10-19. The proposed method of 3,046,561, of using the thumb to throw a hook would not be used by those skilled in the art. In the method described in Patent, 3,046,561, it would be important that the "thumb pressure is withdrawn," "at the moment of release," so there is "no appreciable frictional resistance," col 3, lines 22-33, retarding the forward motion of the bowling ball. Accordingly, the method of using the thumb device of Patent 3,046,561 is the opposite of my inventive method of using a finger pad shield to apply a force to the ball to lift the ball at release, and cannot disclose, teach or show my inventive method.

L) Upon examining the method of "...throwing a hook.." column 1, line 14, as disclosed, it appears the device of 3,045,561 cannot be used as described and claimed in my Application. In order to use the method described, it would be necessary to apply pressure to the ball through the bowler's thumb and opposed fingers. In 3,046,561, the thumb and opposed fingers would be used to exert pressure with "...the opposed finger pressure merely to prevent the ball from

slipping from the hand.” column 1, line 16 - 20. That disclosure teaches and describes the bowler delivering the ball using the thumb and “the opposed finger pressure” to hold the ball in contact with the thumb and “and intended to be sufficient merely to prevent the ball from slipping from the hand.” (Underlining added) That function for the “opposed finger pressure,” as disclosed in 3,046,561 “merely to prevent the ball from slipping from the hand,” is significant. If the pressure of the opposed finger were released, the ball would slip from the grasp of the bowler and the bowler would be unable to exert any pressure by the thumb, recited as, “an important factor” in “the control of the ball.” Column 1, line 16 - 20. This is proven by the disclosure of 3,046,561, that the purpose of the thumb device is to prevent “frictional drag,” to allow the thumb to be “freely removed with no appreciable frictional resistance,” See column 1, lines 54 -63 and column 3, lines 28 - 33. That means the friction required to hold the thumb in contact with the ball is minimal or eliminated, reducing or preventing the bowler’s controlling the ball through the thumb. Accordingly, the disclosure of 3,046,661 is inoperative as a method of using the thumb device to engage the thumb hole of the bowling ball and to maintain engagement and frictional contact between the thumb and the thumb hole, “with such force as will enable the player to effectively control the ball.” column 3, lines 22 -28. If the method disclosed in 3,046,561, were followed, the bowling ball would slip from the bowler’s thumb, as soon as the “opposed finger pressure,” were removed. Col 1, lines 13-19. Accordingly it would be impossible to exert any force against the ball or to “hook” the ball using the thumb, as stated in 3,046,561. The disclosure of 3,046,561 is inoperative for its stated use and unreliable for any teaching of any bowling method.

A fair reading of the disclosure of 3,056,561, is the thumb device is not designed or intended to transmit any force for lifting and directing the ball when releasing the ball, but is limited to preventing abrasion when the bowler is removing the thumb from the ball finger hole. “ Column 1, lines 65 - 70.

M) While the foregoing Paragraph L, shows why the thumb by itself without the opposed finger pressure, cannot be used to control the ball or hook the ball, this Paragraph M, below shows why the thumb cannot be, "an important factor" in "the control of the ball," or even used at all in the control of the ball, as proposed and recited in 3,046,561, column 1, line 16 - 20.

I invite the Examiner to shown how the thumb can be used, as "an important factor" to "hook" the ball, when the opposed fingers are exerting pressure "to prevent the ball from slipping from the hand" (column 3, lines 40 - 44), or how to use the thumb to "hook" the ball without the pressure of the opposed fingers, "to prevent the ball from slipping from the hand." (column 3, lines 40 -44). When the ball is in the grasp of the thumb and the opposed fingers, it is the wrist that controls the ball. The force of the thumb and opposed fingers is applied in opposition to hold the ball "to prevent the ball from slipping from the hand." column 1, lines18 to 19.. The fingers move with the hand under the control of the wrist. No separate control from the thumb can be applied and the thumb cannot be "an important factor" or any more useful then the opposed fingers and only would be useful for grasping the ball and not for hooking the ball. Simply put, grasping the ball with the thumb and opposed fingers as proposed in 3,046,561, renders the thumb useless for separately controlling the ball or throwing a hook.

N) What is clear, and contrary to the proposal of 3,046,561, it is the hand or wrist that is used to control the ball, when the middle fingers and thumb are used to grasp the ball. The disclosure of 3,046,561 makes clearly conflicting or inoperative statements about the method of using the thumb as an "important factor" to "hook" the ball with the presence of the opposed fingers stated as used merely to prevent the ball from slipping from the hand. As stated above, without the opposed finger pressure, the ball would slip from the thumb and it would not be possible to use the thumb to control the ball. With the thumb and opposed

fingers grasping the ball, the thumb could not be an "important factor," or any factor more than the opposed fingers in controlling the ball.

Because of the conflicting, inoperative and irreconcilable, statements, no part of the 3,046,561 disclosure cannot be treated as reliable or credible for any asserted disclosure or teaching of a method of bowling and 3,046,561, must be discarded as incredible and incapable of disclosing any bowling method.

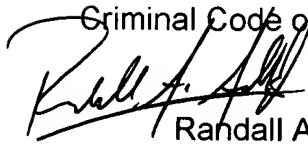
N) I have read Examiner's statement of rejection under 35 U.S.C. 102(b), in paragraph 5, of the Examiner's Office Action, Paper No. 2. This statement by Examiner is ambiguous as not understandable to one skilled in the art of bowling that it may be reasonably answered. However, in an attempt to respond to the best of my understanding of what Examiner may possibly mean, I state the following. Examiner's statement in paragraph 5 of Paper no. 2, that,

"In the use of Marinese the bowler would release the pressure on the finger pad by 'applying a force in a first direction... to said interior surface in the bowling ball.' moving the force in an opposite direction from the finger pad causes the finger to slip out of the hole in the bowling ball. Inherently more force is received 'against the second surface' of the shield shown by Marinese."

is contrary to the disclosure of 3,046,561. To summarize what is explained above in relation to Patent 3,045,561, the thumb is withdrawn at release and there is no force from the ball finger hole against the ball. Claim 1 (cancelled) and independent Claim 14 (New), Claim 21 (New) and Claim 23 (New), recite a force applied against the finger hole at release. I have read 3,046,561 and there is no express or inherent factual support for Examiner's reason for rejection, as quoted above. At release the thumb is taught as withdrawn in 3,046,561. This is contrary to the recited and claimed invention requiring a force to be applied at release. As stated above, the method of 3,046,562 is inoperative, teaches away from my inventive method and is opposite.

O) I have read the "Declaration Under Rule 132" submitted by my co-inventor, Dr. W. Robert Addington, DO, submitted with Application 09/396,531, and submitted with my Declaration and the Amendment to this Application. That Declaration supports my statement made above with regard to the use of the wrist for spinning or hooking the ball, when the ball is in the grasp of the thumb and opposed fingers. As one skilled in the art of bowling, I state it is desirable and preferable to apply the bowler's maximum force against the bowling ball, in the step of releasing the bowling ball, to achieve the best bowling results. The inventive method as stated in Claim 8 (cancelled) and in Claim 15 (New), for example, of applying the maximum force, against the bowling ball finger hole and receiving the force of the bowling ball from the finger hole and spreading that force over the contact area made between the finger pad shield and the bowler's finger is not disclosed in 3,046, 561. 3,046,561 does not show, teach or describe using the maximum natural force of the bowl. It teaches away from my inventive concept of distributing the force of the bowling ball against the finger pad over the "contact area" when the bowler is releasing the ball utilizing his or her maximum natural force.

P) All of the foregoing statements are made upon knowledge or are made upon information or belief. All of the foregoing statements are made under knowledge of the punishments and penalties for perjury, under Title 18 of the Criminal Code of the United States of America.

 ADDINGTON
Randall A. Addington

Date: 5-16-00